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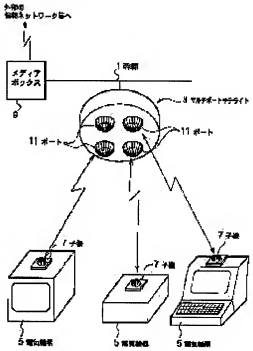
## (54) OPTICAL RADIO TRANSMITTING DEVICE FOR MULTI-PORT SATELLITE

(57)Abstract:
PROBLEM TO BE SOLVED: To obtain an optical radio transmitting device for multi-port satellite capable of speedily and securely searching slave sets and a multi-port satellite while narrowing the directivity of the transmission/reception light characteristic of multi-port satellite so as to prevent the influence of reflection.
SOLUTION: In order to search the ports 11 of the multi-port satellite 3, light beams from the slave set 7 are successively turned while extending a wide range. When they face the satellite 3 to shine the corner cube array of the satellite 3, reflected light reflected in the direction of the slave sets by this corner cube array is received by the slave sets 7. The sets 7 set the transmitting/receiving light direction of an optical radio transmission/reception part to this light receiving direction to send light, and the satellite 3 searches the slave sets by successively turning the light receiving direction of an optical radio transmitting and receiving means while extending a wide range.

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CLAIMS

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[Claim(s)]
[Claim 1] It is multiport satellite light radio-transmission equipment which has the cordless handset which has the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light may be performed. it prepares in said cordless handset -- having -- the port of said multiport satellite -- it should search -- this -- with a port retrieval means to send out so that the sequential turn of the light from said optical wireless transceiver means of a cordless handset may be carried out over the large range When it was prepared in said multiport satellite, the direction of transmission-and-reception light of said optical wireless transceiver means of a cordless handset turned to the multiport satellite that a cordless handset should search the port of a multiport satellite and the light from the optical wireless transceiver means of a cordless handset hits, It is prepared in the cube-corner-reflector array which reflects this light in the direction of said cordless handset, and said cordless handset. The direction of transmission-and-reception light of the optical wireless transceiver means of a cordless handset turns to the multiport satellite. the cordless handset which sets up the direction of transmission-and-reception light of the optical wireless transceiver means of a cordless handset in this light-receiving direction, and sends out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a cordless handset when the reflected light from said cube-corner-reflector array is received -- with the direction setting means of transmission-and-reception light It is prepared in said multiport satellite. the cordless handset which carries out the sequential turn of the light-receiving direction of the optical wireless transceiver means of a multiport satellite over the large range that the direction of the light from an optical wireless transceiver means of a cordless handset by which said direction of transmission-and-reception light was set up should be searched -- the multiport satellite light radio-transmission equipment characterized by having a retrieval means.
[Claim 2] said multiport satellite -- said cordless handset -- the case where a wide range light-receiving means receive the light from an optical wireless transceiver means of a cordless handset to by_which the direction of transmission-and-reception light was set up with the direction setting means of transmission-and-reception light, and this wide range light-receiving means receive the light from the optical wireless transceiver means of a cordless handset -- said cordless handset -- the cordless handset which makes actuation of a retrieval means start -- the multiport satellite light radio-transmission equipment according to claim 1 characterized by to have a retrieval initiation means further.
[Claim 3] It is multiport satellite light radio-transmission equipment which has the cordless handset which has the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light may be performed. it prepares in said cordless handset -- having -- the port of said multiport satellite -- it should search -- this -- with a port

retrieval means to send out so that the sequential turn of the light from said optical wireless transceiver means of a cordless handset may be carried out over the large range When it was prepared in said multiport satellite and the wide range light-receiving means equipped with the wide range light-receiving property that a cordless handset can receive the light sent out from said optical wireless transceiver means of a cordless handset that the port of a multiport satellite should be searched, and this wide range light-receiving means receive the light from said cordless handset, The wide range transmission-and-reception light means equipped with a wide range light transmission means to reach far and wide and to send out light, When it was prepared in said cordless handset and the light from said wide range light transmission means is received, the cordless handset which sets up the direction of transmission-and-reception light of said optical wireless transceiver means of a cordless handset in this light-receiving direction, and sends out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a cordless handset -- with the direction setting means of transmission-and-reception light When it was prepared in said multiport satellite and said wide range light-receiving means receives the light from a cordless handset, the cordless handset which carries out the sequential turn of the light-receiving direction of the optical wireless transceiver means of a multiport satellite over the large range that the direction of the light from the optical wireless transceiver means of a cordless handset should be searched -- the multiport satellite light radio-transmission equipment characterized by having a retrieval means.

[Claim 4] It is multiport satellite light radio-transmission equipment which has the cordless handset equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light might be performed. it prepares in said cordless handset -- having -- the port of said multiport satellite -- it should search -- this -- with a port retrieval means to send out so that the sequential turn of the light from said optical wireless transceiver means of a cordless handset may be carried out over the large range When the optical wireless transceiver means of a cordless handset turns to the multiport satellite that it is prepared in said multiport satellite and a cordless handset should search the port of a multiport satellite A light-receiving means of more than at least three-piece plurality to receive the light sent out from the optical wireless transceiver means of a cordless handset, the cordless handset which pinpoints the location of a cordless handset based on two or more light-receiving conditions of the light from a cordless handset which it was prepared in said multiport satellite, and said two or more light-receiving means came out, respectively, and received -- with a location specification means The direction of transmission-and-reception light of the optical wireless transceiver means of a port is set up in the direction of the cordless handset which had the location pinpointed with a location specification means. it prepares in said multiport satellite -- having -- said cordless handset -- A direction setting means of port transmission-and-reception light to send out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a port, It is prepared in said cordless handset and said light sent out from an optical wireless transceiver means of a port by which the direction of transmission-and-reception light was set up with said direction setting means of port transmission-and-reception light is received. this light-receiving direction -- this -- the cordless handset which sets up the optical wireless transceiver means of a cordless handset -- the multiport satellite light radio-transmission equipment characterized by having the direction setting means of transmission-and-reception light.

[Claim 5] It is multiport satellite light radio-transmission equipment containing the cordless handset equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light might be performed. An ultrasonic sending-out means to send out so that the sequential turn of the supersonic wave which has comparatively narrow directivity that it is prepared in said cordless handset and the port of said multiport satellite should be searched may be carried out over the large range, When said ultrasonic

sending-out means of a cordless handset turns to the multiport satellite that it is prepared in said multiport satellite and a cordless handset should search the port of a multiport satellite An ultrasonic receiving means of more than at least three-set plurality to receive the supersonic wave sent out from the ultrasonic sending-out means of a cordless handset, the cordless handset which pinpoints the location of a cordless handset based on two or more receive states of the supersonic wave from the received cordless handset out of which it was prepared in said multiport satellite and said two or more ultrasonic receiving means came, respectively -- with a location specification means The direction of transmission-and-reception light of the optical wireless transceiver means of a port is set up in the direction of the cordless handset which had the location pinpointed with a location specification means. it prepares in said multiport satellite -- having -- said cordless handset -- A direction setting means of port transmission-and-reception light to send out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a port, It is prepared in said cordless handset and said light sent out from an optical wireless transceiver means of a port by which the direction of transmission-and-reception light was set up with said direction setting means of port transmission-and-reception light is received. this light-receiving direction -- this -- the cordless handset which sets up the optical wireless transceiver means of a cordless handset -- the multiport satellite light radio-transmission equipment characterized by having the direction setting means of transmission-and-reception light.

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention is installed in head lining etc., is isolated from the multiport satellite which has a port with the optical wireless transceiver section, and this multiport satellite, is attached in each electrical machinery and apparatus etc., and relates to the multiport satellite light radio-transmission equipment which performs optical radio among two or more cordless handsets with the optical wireless transceiver section of said port, and the optical wireless transceiver section which can perform transmission and reception of light.
[0002]
[Description of the Prior Art] This kind of multiport satellite light radio-transmission equipment is effective in order to transmit information by optical radio instead of transfer of the information by wiring to various electrical machinery and apparatus, such as television in a home, a videocassette recorder, and a personal computer, and for this to delete complicated wiring to each electrical machinery and apparatus, using optical radio and to simplify installation of an electrical machinery and apparatus and handling.
[0003] Thus, with multiport satellite light radio-transmission equipment, in order to perform optical radio to each electrical machinery and apparatus, as shown in drawing 17 , while attaching the multiport satellite 91 in head lining of the location in which an electrical machinery and apparatus etc. is installed etc., the cordless handset 92 which performs this multiport satellite 91 and optical radio is attached in each electrical machinery and apparatus 95. the multiport satellite 91 -- and -- each -- the cordless handset 92 is equipped with the part of light sending and receiving for performing optical radio mutually, respectively, the light transmitted from the part of light sending and receiving of the multiport satellite 91 is received by the part of light sending and receiving of a cordless handset 92, light is received by the part of light sending and receiving of the multiport satellite 91, and, thereby, the light transmitted from the part of light sending and receiving of a cordless handset 92 performs optical radio.
[0004] In the conventional multiport satellite light radio-transmission equipment which performs such optical radio As it indicates drawing 17 with a sign 93 that a cordless handset 92 is detected accurately [ the multiport satellite 91 ] and quickly, and optical transmission and reception can be carried out with a cordless handset, large transmission-and-reception light directional characteristics, namely, the indirectional light 93 which has an indirectional part of light sending and receiving, and was widely emitted from the multiport satellite 91 -- each -- while being detected easily and being able to receive light with a cordless handset 92 -- each -- the light 94 emitted from the cordless handset 92 can also receive light now easily by the indirectional part of light sending and receiving.
[0005] moreover -- each, while a cordless handset 92 prevents interference with other cordless handsets and performs the multiport satellite 91 and optical radio accurately It has a comparatively narrow directive part of light sending and receiving. the multiport satellite 91 -- a cordless handset -- so that an own location can be reported The light 94 from the part of light sending and receiving of this cordless handset is sent out towards the multiport satellite 91. the light 93 from the part of light sending and

receiving of the multiport satellite 91 -- the part of light sending and receiving of a cordless handset 92 -- receiving light -- thereby -- the multiport satellite 91 -- each -- a cordless handset 92 transmits information using light.

[0006]

[Problem(s) to be Solved by the Invention] With the conventional multiport satellite light radio-transmission equipment mentioned above, since the part of light sending and receiving of the multiport satellite 91 is indirectivity, as shown in drawing 18 , it has the problem of being easy to be influenced of the light reflected in the wall 96 grade.

[0007] Moreover, in the optical radio by conventional multiport satellite light radio-transmission equipment, although a transfer rate can attain for example, 10Mbps extent, when a transfer rate becomes high speeds, such as for example, 100Mbps(es) and 200Mbps(es), it has the problem that it is difficult to remove the effect of reflective.

[0008] Although what is necessary is just to narrow directivity of the part of light sending and receiving of a multiport satellite in order to prevent the effect of such reflection, when directivity of the part of light sending and receiving of a multiport satellite is narrowed, there is a problem that it becomes difficult for a cordless handset to detect the location of a multiport satellite, and it becomes difficult to perform quick optical radio.

[0009] This invention was made in view of the above, and the place made into the purpose is to offer the multiport satellite light radio-transmission equipment which can search a cordless handset and a multiport satellite quickly and accurately, though directivity of the transmission-and-reception light property of a multiport satellite is narrowed so that the effect of reflective can be prevented.

[0010]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, this invention according to claim 1 It is multiport satellite light radio-transmission equipment which has the cordless handset which has the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light may be performed. it prepares in said cordless handset -- having -- the port of said multiport satellite -- it should search -- this -- with a port retrieval means to send out so that the sequential turn of the light from said optical wireless transceiver means of a cordless handset may be carried out over the large range When it was prepared in said multiport satellite, the direction of transmission-and-reception light of said optical wireless transceiver means of a cordless handset turned to the multiport satellite that a cordless handset should search the port of a multiport satellite and the light from the optical wireless transceiver means of a cordless handset hits, It is prepared in the cube-corner-reflector array which reflects this light in the direction of said cordless handset, and said cordless handset. The direction of transmission-and-reception light of the optical wireless transceiver means of a cordless handset turns to the multiport satellite. the cordless handset which sets up the direction of transmission-and-reception light of the optical wireless transceiver means of a cordless handset in this light-receiving direction, and sends out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a cordless handset when the reflected light from said cube-corner-reflector array is received -- with the direction setting means of transmission-and-reception light the cordless handset which carries out the sequential turn of the light-receiving direction of the optical wireless transceiver means of a multiport satellite over the large range that the direction of the light from an optical wireless transceiver means of a cordless handset by which it was prepared in said multiport satellite and said direction of transmission-and-reception light was set up should be searched -- let it be a summary to have a retrieval means.

[0011] If it is in this invention according to claim 1, the sequential turn of the light from a cordless handset is carried out over the large range that the port of a multiport satellite should be searched. Turn to the multiport satellite and in the cube-corner-reflector array of a multiport satellite The reflected light reflected in the direction of a cordless handset by this cube-corner-reflector array is received with a cordless handset. In order for a cordless handset to set up the direction of transmission-and-reception

light of the optical wireless transceiver section in this light-receiving direction, to send out light, and for a multiport satellite to carry out the sequential turn of the light-receiving direction of an optical wireless transceiver means over the large range and to search the direction of the light of a cordless handset, Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset can search the location of a multiport satellite accurately and quickly, and can perform optical radio accurately.

[0012] moreover, this invention according to claim 2 -- invention according to claim 1 -- setting -- said multiport satellite -- said cordless handset -- with a wide range light-receiving means to receive the light from an optical wireless transceiver means of a cordless handset by which the direction of transmission-and-reception light was set up with the direction setting means of transmission-and-reception light the case where this wide range light-receiving means receives the light from the optical wireless transceiver means of a cordless handset -- said cordless handset -- the cordless handset which makes actuation of a retrieval means start -- let it be a summary to have a retrieval initiation means further.

[0013] the case where, as for a multiport satellite, a wide range light-receiving means receives the light from a cordless handset after the cordless handset searched the multiport satellite, if it was in this invention according to claim 2 -- a cordless handset -- actuation of a retrieval means is made to start

[0014] Furthermore, this invention according to claim 3 It is multiport satellite light radio-transmission equipment which has the cordless handset which has the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light may be performed. it prepares in said cordless handset -- having -- the port of said multiport satellite -- it should search -- this -- with a port retrieval means to send out so that the sequential turn of the light from said optical wireless transceiver means of a cordless handset may be carried out over the large range When it was prepared in said multiport satellite and the wide range light-receiving means equipped with the wide range light-receiving property that a cordless handset can receive the light sent out from said optical wireless transceiver means of a cordless handset that the port of a multiport satellite should be searched, and this wide range light-receiving means receive the light from said cordless handset, The wide range transmission-and-reception light means equipped with a wide range light transmission means to reach far and wide and to send out light, When it was prepared in said cordless handset and the light from said wide range light transmission means is received, the cordless handset which sets up the direction of transmission-and-reception light of said optical wireless transceiver means of a cordless handset in this light-receiving direction, and sends out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a cordless handset -- with the direction setting means of transmission-and-reception light When it was prepared in said multiport satellite and said wide range light-receiving means receives the light from a cordless handset, the cordless handset which carries out the sequential turn of the light-receiving direction of the optical wireless transceiver means of a multiport satellite over the large range that the direction of the light from the optical wireless transceiver means of a cordless handset should be searched -- let it be a summary to have a retrieval means.

[0015] If it is in this invention according to claim 3, the sequential turn of the light from a cordless handset is carried out over the large range that the port of a multiport satellite should be searched. If the wide range light-receiving means of a multiport satellite receives the light from a cordless handset when the multiport satellite is turned to If light is broadly sent out from the wide range light transmission means of a multiport satellite and this light is received with a cordless handset A cordless handset sets up the direction of transmission-and-reception light of the optical wireless transceiver section, and sends out light in this light-receiving direction. In order for a multiport satellite to carry out sequential turn initiation of the light-receiving direction of an optical wireless transceiver means over the large range if a wide range light-receiving means receives the light from a cordless handset, and to search the direction of the light of a cordless handset, Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset can search the location of a

multiport satellite accurately and quickly, and can perform optical radio accurately.
[0016] This invention according to claim 4 It is multiport satellite light radio-transmission equipment which has the cordless handset equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light might be performed. it prepares in said cordless handset -- having -- the port of said multiport satellite -- it should search -- this -- with a port retrieval means to send out so that the sequential turn of the light from said optical wireless transceiver means of a cordless handset may be carried out over the large range When the optical wireless transceiver means of a cordless handset turns to the multiport satellite that it is prepared in said multiport satellite and a cordless handset should search the port of a multiport satellite A light-receiving means of more than at least three-piece plurality to receive the light sent out from the optical wireless transceiver means of a cordless handset, the cordless handset which pinpoints the location of a cordless handset based on two or more light-receiving conditions of the light from a cordless handset which it was prepared in said multiport satellite, and said two or more light-receiving means came out, respectively, and received -- with a location specification means The direction of transmission-and-reception light of the optical wireless transceiver means of a port is set up in the direction of the cordless handset which had the location pinpointed with a location specification means. it prepares in said multiport satellite -- having -- said cordless handset -- A direction setting means of port transmission-and-reception light to send out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a port, said light sent out from an optical wireless transceiver means of a port by which it was prepared in said cordless handset and the direction of transmission-and-reception light was set up with said direction setting means of port transmission-and-reception light -- receiving light -- this light-receiving direction -- this -- the cordless handset which sets up the optical wireless transceiver means of a cordless handset -- let it be a summary to have the direction setting means of transmission-and-reception light.
[0017] If it is in this invention according to claim 4, the sequential turn of the light from a cordless handset is carried out over the large range that the port of a multiport satellite should be searched. When the multiport satellite is turned to, a multiport satellite receives the light from a cordless handset with the light-receiving means of more than at least three-piece plurality. Set up the direction of transmission-and-reception light of the optical wireless transceiver means of a port in the direction of the cordless handset which the location of a cordless handset was pinpointed [ cordless handset ] based on two or more of these light-receiving conditions, and had this location pinpointed, and light is sent out. Since a cordless handset receives this light, the optical wireless transceiver means of a cordless handset is set up in this light-receiving direction and light is sent out, Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset and a multiport satellite can search a partner's location accurately and quickly mutually, and can perform optical radio accurately.
[0018] Moreover, this invention according to claim 5 It is multiport satellite light radio-transmission equipment containing the cordless handset equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics so that said transmission and reception of the multiport satellite which has the port equipped with the optical wireless transceiver means of comparatively narrow transmission-and-reception light directional characteristics, a port, and light might be performed. An ultrasonic sending-out means to send out so that the sequential turn of the supersonic wave which has comparatively narrow directivity that it is prepared in said cordless handset and the port of said multiport satellite should be searched may be carried out over the large range, When said ultrasonic sending-out means of a cordless handset turns to the multiport satellite that it is prepared in said multiport satellite and a cordless handset should search the port of a multiport satellite An ultrasonic receiving means of more than at least three-set plurality to receive the supersonic wave sent out from the ultrasonic sending-out means of a cordless handset, the cordless handset which pinpoints the location of a cordless handset based on two or more receive states

of the supersonic wave from the received cordless handset out of which it was prepared in said multiport satellite and said two or more ultrasonic receiving means came, respectively -- with a location specification means The direction of transmission-and-reception light of the optical wireless transceiver means of a port is set up in the direction of the cordless handset which had the location pinpointed with a location specification means. it prepares in said multiport satellite -- having -- said cordless handset -- A direction setting means of port transmission-and-reception light to send out light in this direction of transmission-and-reception light from the optical wireless transceiver means of a port, said light sent out from an optical wireless transceiver means of a port by which it was prepared in said cordless handset and the direction of transmission-and-reception light was set up with said direction setting means of port transmission-and-reception light -- receiving light -- this light-receiving direction -- this -- the cordless handset which sets up the optical wireless transceiver means of a cordless handset -- let it be a summary to have the direction setting means of transmission-and-reception light.

[0019] It sends out so that the sequential turn of the supersonic wave may be carried out over the large range that the port of a multiport satellite should be searched, if it is in this invention according to claim 5. When the multiport satellite is turned to, the supersonic wave from a cordless handset is received by the ultrasonic receiving means of more than at least three-set plurality. Based on two or more receive states of this supersonic wave, set up the direction of transmission-and-reception light of the optical wireless transceiver means of a port in the direction of the cordless handset which the location of a cordless handset was pinpointed [ cordless handset ] and had this location pinpointed, and light is sent out. Since a cordless handset receives this light, the optical wireless transceiver means of a cordless handset is set up in this light-receiving direction and light is sent out, Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset and a multiport satellite can search a partner's location accurately and quickly mutually, and can perform optical radio accurately.

[0020]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained using a drawing. Drawing 1 is the explanatory view showing the configuration of the multiport satellite light radio-transmission equipment concerning the 1st operation gestalt of this invention. It connects with the trunk 1 which consists of an optical fiber which can realize the fast transmission rate of 200Mbps(es) based on IEEE1394, and is attached in the various electrical machinery and apparatus 5, such as the multiport satellite 3 which is the optical wireless repeater attached in head lining of an installation etc. and television, a videocassette recorder, and a personal computer, and the multiport satellite light radio-transmission equipment shown in this drawing has two or more cordless handsets 7 which perform this multiport satellite 3 and optical radio. Moreover, the multiport satellite 3 is connected to the external information network etc. through the media box 9 from the trunk 1.

[0021] The multiport satellite 3 has two or more ports 11, and each port 11 has the optical wireless transceiver section which can transmit and receive light. moreover -- each -- the optical wireless transceiver section in which a cordless handset 7 can also perform transmission and reception of the optical wireless transceiver section of each port 11, and light -- having -- each port 11 of the multiport satellite 3 -- each -- a cordless handset 7 Using each optical wireless transceiver section, perform optical radio mutually and the information transmitted to the multiport satellite 3 through the media box 9 and a trunk 1 from an external information network etc. is transmitted to the optical wireless transceiver section of a cordless handset 7 as a lightwave signal from the optical wireless transceiver section of a port 11. Furthermore, while supplying an electrical machinery and apparatus 5 from the optical wireless transceiver section of a cordless handset 7, change the information from an electrical machinery and apparatus 5 into a lightwave signal in the optical wireless transceiver section of a cordless handset 7, and it transmits to the optical wireless transceiver section of the port 11 of the multiport satellite 3. The optical wireless transceiver section of this port 11 transmits to the optical wireless transceiver section of other cordless handsets 7 in which this received lightwave signal is attached by other electrical machinery and apparatus 5 through the optical wireless transceiver section of the port 11 of others [ **** / transmitting to an external information network etc. ] through the trunk 1 and the media box 9.

A cordless handset 7 uses optical radio. the other cordless handsets 7 -- this -- a cordless handset -- as it transmits to other electrical machinery and apparatus 5 attached in self -- each port 11 of the multiport satellite 3 -- each -- The exchange of the information between an external information network etc. and each electrical machinery and apparatus 5 and between each electrical machinery and apparatus 5 is mediated.

[0022] Drawing 2 is the explanatory view showing the light-receiving property and luminescence property of the optical wireless transceiver section which two or more ports 11 established in the multiport satellite 3 shown in drawing 1 and two or more cordless handsets 7 have, respectively. The optical wireless transceiver section of each port 11 of the multiport satellite 3 has narrow luminescence directional characteristics similarly so that the interference to other cordless handsets 7 may also be avoided, while having the narrow light-receiving directional characteristics extracted as a sign 13 showed drawing 2 , in order to avoid interference with other communication paths. moreover -- each -- the optical wireless transceiver section of a cordless handset 7 also has comparatively narrow ****** directional characteristics, as a sign 15 shows.

[0023] Drawing 3 is drawing showing the detailed configuration of the multiport satellite 3 in the 1st operation gestalt shown in drawing 1 . In addition, the multiport satellite 3 shown in drawing 3 uses the reflective use search method with which a cordless handset 7 detects the multiport satellite 3 using the light reflected from the multiport satellite 3 to the light which the cordless handset 7 emitted to the multiport satellite 3.

[0024] In drawing 3 , the multiport satellite 3 has four ports 11, and mostly, while the extensive orientation light-receiving equipment 17 of the light-receiving directional characteristics of the inferior surface of tongue in which this port 11 is attached large in the center is attached, as expanded and shown in the whole inferior surface of tongue of the multiport satellite 3 except the part in which this extensive orientation light-receiving equipment 17 is attached, the cube-corner-reflector array 19 is attached.

[0025] When the light sent out from the cordless handset 7 hits, the cube-corner-reflector array 19 is constituted so that this light may be reflected in the direction of the cordless handset 7 which is the light source. In order that a cordless handset 7 may perform the multiport satellite 3 and optical radio, it is going to search the multiport satellite 3, and as the cordless handset 7 explained by drawing 2 , when the pilot light sent out from the optical wireless transceiver section of the narrow ****** directional characteristics 15 hits the cube-corner-reflector array 19, specifically, the cube-corner-reflector array 19 reflects this pilot light in the direction of a port 11. Moreover, it is used in order that the extensive orientation light-receiving equipment 17 attached in the multiport satellite 3 may also receive the pilot light from a cordless handset 7.

[0026] It explains according to the flow chart which drawing 6 shows, referring to drawing 3 - drawing 5 about an operation of the multiport satellite light radio-transmission equipment concerning the 1st operation gestalt constituted as mentioned above, especially the search of the port 11 of the multiport satellite 3 by the cordless handset 7 using reflection by the cube-corner-reflector array 19.

[0027] First, in order to search the port 11 of the multiport satellite 3, as shown in drawing 4 (a), a cordless handset 7 generates the pilot light 21 of narrow ****** directional characteristics from the optical wireless transceiver section (step S11 of drawing 6 ), as the arrow head 23 of drawing 4 (a) shows, it carries out sequential migration of this pilot light 21 all around over the large range, and performs a regular turn (step S13). If the pilot light 21 from the optical wireless transceiver section of a cordless handset 7 turns to the multiport satellite 3 in turn actuation of such a pilot light, as shown in drawing 4 (b), as for this pilot light, the reflected light 25 will be reflected in the direction of a cordless handset 7 from the cube-corner-reflector array 19 in the cube-corner-reflector array 19 of the multiport satellite 3 (step S15).

[0028] If the optical wireless transceiver section receives the reflected light 25 from the cube-corner-reflector array 19 as shown in drawing 4 (b), a cordless handset 7 sets up the direction of transmission-and-reception light of the optical wireless transceiver section in the light-receiving direction of this reflected light, and sends out light in this direction of transmission-and-reception light from the optical wireless transceiver section. Thus, the light sent out from the optical wireless transceiver section of a

cordless handset 7 is received by the extensive orientation light-receiving equipment 17 of the multiport satellite 3, as a sign 27 shows drawing 4 (c).
[0029] If extensive orientation light-receiving equipment 17 receives the light 27 from a cordless handset 7 as shown in drawing 4 (c), the multiport satellite 3 As an arrow head 29 shows the light-receiving direction of the optical wireless transceiver section of one port 11 of the multiport satellite 3 in drawing 5 that the direction of the light from this cordless handset 7, i.e., the location of a cordless handset 7, should be identified, it converts by carrying out sequential migration over the large range. A cordless handset 7 is searched (step S17). Consequently, if the optical wireless transceiver section of the port 11 of the multiport satellite 3 receives the light from the optical wireless transceiver section of a cordless handset 7 which has set up the direction of transmission-and-reception light in the direction of [ its own ], the its own direction of transmission-and-reception light of transmission-and-reception light, i.e., the direction of the optical wireless transceiver section of a port 11, can be set up in this light-receiving direction, and this optical wireless transceiver section can perform the optical wireless transceiver section and the optical radio of a cordless handset 7.
[0030] In addition, as mentioned above One port 11 of the search actuation by the cordless handset with which a cordless handset 7 reaches far and wide as an arrow head 23 shows, it carries out sequential migration of the pilot light 21 all around, and performs a regular turn, and the multiport satellite 3 detects the pilot light 21 from a cordless handset 7. Both search actuation of the search actuation by the port 11 of the multiport satellite 3 which reaches far and wide, is made to carry out sequential migration of the light-receiving direction of the optical wireless transceiver section of a port 11 as an arrow head 29 shows that light should be received, and performs a regular turn In order to attain improvement in the speed, after detecting a partner's location roughly by the rough search which searchs roughly in a detail, and this rough search, two steps of searches of the fine search which performs a detailed search that a location should be detected in a detail are performed.
[0031] In a rough search, after searching all range and detecting a rough partner's location by this rough search, moving greatly the movement magnitude of the light-receiving direction of the pilot light 21 from a cordless handset 7, and the optical wireless transceiver section of a port 11 like every 5 times, a fine search is performed in the small range centering on this detected rough location, and a partner's location is detected correctly. Said small range is searched in this fine search, moving small the movement magnitude of the pilot light 21 of a cordless handset 7, and the light-receiving direction of a port 11 like every 1 time.
[0032] Moreover, in such search actuation, searching all range, the list of the receiving situations of the signal within the limits of this is created, and the location which was the most highly sensitive is chosen from these lists.
[0033] Furthermore, as mentioned above, a cordless handset 7 detects the location of the multiport satellite 3. After setting up the transceiver direction of the optical wireless transceiver section of a cordless handset 7 in this detected direction, In the search actuation which converts by reaching far and wide and the multiport satellite 3 carrying out sequential migration of the light-receiving direction of the optical wireless transceiver section of one port 11 that the location of a cordless handset 7 should be identified The processing whose multiport satellite 3 chooses one port 11 When identification number #1, #2, #3, and #4 are assigned to two or more ports 11 and the port 11 of #1 is using it # If the port 11 of 2 is chosen and #2 are under use, it will be chosen as order with a young identification number ID from the intact port 11 as the next port 11 of #3 is chosen.
[0034] Selection actuation of this port is explained with reference to the flow chart shown in drawing 19 . In drawing 19 , Variable n is defined first and this variable n is initialized to 0 (step S81). And an identification number ID confirms whether the port 11 of No. 0 is using [ an identification number ID ] it in the port 11 of No. n, and this example (step S83). When this port 11 is not using it, this port 11 is chosen (step S91), and processing is ended, but in being under use, an identification number ID increments n +one time (step S85), and it carries out by repeating the actuation same about all the ports 11 (step S87), and chooses it as order with a young identification number ID from the intact port 11. Searching becomes impossible when all the ports 11 are using it (step S89).

[0035] Next, with reference to drawing 7 , the multiport satellite light radio-transmission equipment concerning the 2nd operation gestalt of this invention is explained. In addition, this 2nd operation gestalt will use the AKKU mold bidirectional use search method which answers this light and returns light to a cordless handset 7, if the multiport satellite 3 receives the light from a cordless handset 7.
[0036] moreover -- while being applied to the multiport satellite light radio-transmission equipment of the same system configuration as what also showed the multiport satellite 3 of the 2nd operation gestalt shown in drawing 7 to drawing 1 -- moreover, each port 11 of the multiport satellite 3 -- and -- each -- the same of it being what has the narrow ****** directional characteristics 13 and 15 as drawing 2 explained is said of each optical wireless transceiver section of a cordless handset 7.
[0037] The multiport satellite 3 shown in drawing 7 has four ports 11, and while the extensive orientation light-receiving equipment 31 of the inferior surface of tongue in which this port 11 is attached equipped with the large light-receiving property so that it might expand in the center at drawing 7 and might be shown mostly is attached, four extensive orientation luminescence equipments 33 which emit light over the large range are arranged in the perimeter of extensive orientation light-receiving equipment 31.
[0038] Next, it explains according to the flow chart shown in drawing 10 , referring to drawing 8 (a), (b), and drawing 9 about the procedure of the AKKU mold bidirectional use search using an operation of the multiport satellite light radio-transmission equipment of the 2nd operation gestalt shown in drawing 7 especially extensive orientation light-receiving equipment 31, and extensive orientation luminescence equipment 33.
[0039] First, in order to search the port 11 of the multiport satellite 3, as shown in drawing 8 (a), a cordless handset 7 generates the pilot light 21 of narrow ****** directional characteristics from the optical wireless transceiver section (step S21 of drawing 10 (a)), as the arrow head 23 of drawing 8 (a) shows, it carries out sequential migration of this pilot light 21 all around over the large range, and performs a regular turn (step S23). In turn actuation of such a pilot light, the pilot light 21 from the optical wireless transceiver section of a cordless handset 7 turns to the multiport satellite 3. If extensive orientation light-receiving equipment 31 receives the pilot light 21 from a cordless handset 7 in the extensive orientation light-receiving equipment 31 of the multiport satellite 3 (step S25) Extensive orientation light-receiving equipment 31 answers this light-receiving, starts extensive orientation luminescence equipment 33, and from extensive orientation luminescence equipment 33, in drawing 8 (b), as a sign 35 shows, it generates a wide angle light.
[0040] Generating of the wide angle light 35 of the extensive orientation luminescence equipment 33 of the multiport satellite 3 receives this light 35 in the optical wireless transceiver section of a cordless handset 7, as shown in drawing 8 (b). If light 35 is received from the extensive orientation luminescence equipment 33 of the multiport satellite 3, a cordless handset 7 sets up the direction of transmission-and-reception light of the optical wireless transceiver section in this light-receiving direction, and sends out light in this direction of transmission-and-reception light from the optical wireless transceiver section.
[0041] If extensive orientation light-receiving equipment 31 receives the pilot light 21 of a cordless handset 7, the multiport satellite 3 At the same time it starts extensive orientation luminescence equipment 33, as mentioned above The direction of the light from a cordless handset 7, That is, as an arrow head 29 shows the light-receiving direction of the optical wireless transceiver section of one port 11 in drawing 9 that the location of a cordless handset 7 should be identified, it converts by carrying out sequential migration over the large range, and a cordless handset 7 is searched (step S27).
[0042] In the search of the cordless handset 7 by this multiport satellite 3 As a flow chart shows to drawing 10 (b), the optical wireless transceiver section of one port 11 of the multiport satellite 3 When the cordless handset is being searched converting the light-receiving direction as the arrow head 29 of drawing 9 shows If it receives (step S31), the light, i.e., the pilot light, from the optical wireless transceiver section of a cordless handset 7 The its own direction of transmission-and-reception light of transmission-and-reception light, i.e., the direction of the optical wireless transceiver section of a port 11, is set up in this light-receiving direction. It can notify that this optical wireless transceiver section generated pilot light in this direction of transmission-and-reception light (step S33), and detected the

cordless handset 7 to a cordless handset 7, and the optical wireless transceiver section of a port 11 can perform now the optical wireless transceiver section and the optical radio of a cordless handset 7.
[0043] Next, with reference to drawing 11 , the multiport satellite light radio-transmission equipment concerning the 3rd operation gestalt of this invention is explained. In addition, this 3rd operation gestalt uses the bidirectional search which used the optical bearing detector. moreover -- while being applied to the multiport satellite light radio-transmission equipment of the same system configuration as what also showed the multiport satellite 3 of the 3rd operation gestalt shown in drawing 11 to drawing 1 -- moreover, each port 11 of the multiport satellite 3 -- and -- each -- the same of it being what has the narrow ****** directional characteristics 13 and 15 as drawing 2 explained is said of each optical wireless transceiver section of a cordless handset 7.
[0044] the inferior surface of tongue in which the multiport satellite 3 shown in drawing 11 has four ports 11, and this four port 11 is attached -- mostly, with this operation gestalt of more than three-piece plurality, it has four light-receiving means 37 so that it may expand to drawing 11 and may be shown in the center. With this operation gestalt, when this four light-receiving means 37 receives the pilot light from a cordless handset 7, it is going to specify the direction of a cordless handset 7 by the difference in the light-receiving condition of four light-receiving means 37.
[0045] Next, it explains according to the flow chart shown in drawing 13 , referring to drawing 12 (a) and (b) about an operation of the multiport satellite light radio-transmission equipment of the 3rd operation gestalt shown in drawing 11 , especially the procedure of a bidirectional search using the light-receiving means 37 which is an optical bearing detector.
[0046] First, in order to search the port 11 of the multiport satellite 3, similarly, to having mentioned above, a cordless handset 7 generates the pilot light 21 of narrow ****** directional characteristics from the optical wireless transceiver section, carries out sequential migration of this pilot light 21 all around over the large range, and performs a regular turn with it. As the pilot light 21 from the optical wireless transceiver section of a cordless handset 7 turns to the multiport satellite 3 in turn actuation of such a pilot light and it is shown in drawing 12 (a) in each light-receiving means 37 of the multiport satellite 3 If each light-receiving means 37 receives the pilot light 21 from a cordless handset 7, the multiport satellite 3 will calculate the direction of a cordless handset 7 for the light-receiving signal from each of this light-receiving means 37 based on the difference in the level of reception and this light-receiving signal etc. (step S41 of drawing 13 ).
[0047] If the direction of a cordless handset 7 is calculated based on the light-receiving signal of the light-receiving means 37, the multiport satellite 3 The optical wireless transceiver section of one port 11 is converted in this count direction, and the direction of transmission-and-reception light of this optical wireless transceiver section is set up (step S43). Further the multiport satellite 3 In this set-up direction of transmission-and-reception light, as shown in drawing 12 (b) from the optical wireless transceiver section, light 39 is sent out to a setup and coincidence of this direction of transmission-and-reception light. Namely, the optical wireless transceiver section of a port 11 sends out light 39 in the direction of a cordless handset 7. Consequently, the optical wireless transceiver section of a cordless handset 7 receives the light 39 from the optical wireless transceiver section of a port 11, answers this light-receiving, and returns light 41 towards a port 11 (step S45). Consequently, the optical wireless transceiver section of a port 11 can perform now the optical wireless transceiver section and the optical radio of a cordless handset 7.
[0048] Next, with reference to drawing 14 , the multiport satellite light radio-transmission equipment concerning the 4th operation gestalt of this invention is explained. In addition, this 4th operation gestalt uses the bidirectional search for which at least the acoustic wave by the supersonic wave used the detector. moreover -- while being applied to the multiport satellite light radio-transmission equipment of the same system configuration as what also showed the multiport satellite 3 of the 4th operation gestalt shown in drawing 14 to drawing 1 -- moreover, each port 11 of the multiport satellite 3 -- and -- each -- the same of it being what has the narrow ****** directional characteristics 13 and 15 as drawing 2 explained is said of each optical wireless transceiver section of a cordless handset 7.
[0049] the inferior surface of tongue in which the multiport satellite 3 shown in drawing 11 has four

ports 11, and this four port 11 is attached -- mostly, with this operation gestalt of more than three-piece plurality, it has three ultrasonic microphones 45 so that it may expand to drawing 14 and may be shown in the center. moreover -- this operation gestalt -- each -- the cordless handset 7 is equipped with an ultrasonic generating means to generate the supersonic wave which has comparatively narrow directivity. And when three ultrasonic microphones 45 receive the supersonic wave from the ultrasonic generating means of a cordless handset 7, it is going to specify the direction of a cordless handset 7 from the phase contrast of the supersonic wave which three ultrasonic microphones 45 received.

[0050] Next, at least an operation of the multiport satellite light radio-transmission equipment of the 4th operation gestalt shown in drawing 14, especially an acoustic wave are explained with reference to drawing 15 (a) - (c) about the procedure of a bidirectional search using the ultrasonic microphone 45 which is a detector. In addition, since the flow chart which shows the procedure of this operation gestalt is almost the same as drawing 13, illustration is omitted.

[0051] First, in order to search the port 11 of the multiport satellite 3, a cordless handset 7 is generated as a sign 47 shows the pilot supersonic wave of comparatively narrow directional characteristics in drawing 15 (a) from an ultrasonic generating means, it carries out sequential migration of this pilot supersonic wave 47 all around over the large range, and performs a regular turn.

[0052] In turn actuation of such a pilot light, the pilot supersonic wave 47 from the ultrasonic generating means of a cordless handset 7 turns to the multiport satellite 3, and if it is detected as each ultrasonic microphone 45 of the multiport satellite 3 shows to drawing 15 (b), as for the multiport satellite 3, based on the phase contrast of reception and this detection signal, the direction of a cordless handset 7 is specified for the detection signal from each of this ultrasonic microphone 45.

[0053] If the multiport satellite 3 calculates the direction of a cordless handset 7 based on the detection signal of each ultrasonic microphone 45, the optical wireless transceiver section of one port 11 is converted in this count direction, the direction of transmission-and-reception light of this optical wireless transceiver section is set up, and the multiport satellite 3 sends out light 49 to a setup and the coincidence of this direction of transmission-and-reception light in this set-up direction of transmission-and-reception light further, as shown in drawing 15 (c) from the optical wireless transceiver section. Namely, the optical wireless transceiver section of a port 11 sends out light 49 in the direction of a cordless handset 7. Consequently, the optical wireless transceiver section of a cordless handset 7 receives the light 49 from the optical wireless transceiver section of a port 11, answers this light-receiving, and returns light 51 towards a port 11. Consequently, the optical wireless transceiver section of a port 11 can perform now the optical wireless transceiver section and the optical radio of a cordless handset 7.

[0054] Next, when two or more light-receiving means 37 or ultrasonic microphones 45 detect the direction of a cordless handset 7 like the 3rd and 4th operation gestalten with reference to the flow chart shown in drawing 16, the port selection processing in which the multiport satellite 3 chooses any one port 11 from two or more ports 11 is explained.

[0055] When it confirms whether the multiport satellite 3 has an empty port first when the direction of a cordless handset 7 is detected using two or more light-receiving means 37 or two or more ultrasonic microphones 45 like the 3rd or 4th operation gestalt (step S51) and there is no empty port, it means that the search had gone wrong (steps S53 and S55).

[0056] When there is an empty port, the youngest port of an identification number (ID) is chosen among the ports of this opening (step S57). A mark in use is attached to the identification number (ID) of this selected port (step S59), and the port of this identification number (ID) is determined as a use port (step S61).

[0057] In addition, when the direction of a cordless handset is instead detected, you may make it choose the port nearest to the direction of this cordless handset in processing of drawing 16, although the identification number (ID) has determined the youngest port as a use port among empty ports.

[0058]

[Effect of the Invention] As explained above, according to this invention, carry out the sequential turn of the light from a cordless handset over the large range that the port of a multiport satellite should be

searched, turn to the multiport satellite, and in a cube-corner-reflector array The reflected light from this cube-corner-reflector array is received with a cordless handset, and a cordless handset sets up the direction of transmission-and-reception light of the optical wireless transceiver section, and sends out light in this light-receiving direction. Since a multiport satellite carries out the sequential turn of the light-receiving direction of an optical wireless transceiver means over the large range and it looks for a cordless handset Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset can search the location of a multiport satellite accurately and quickly, and can perform optical radio accurately.

[0059] Moreover, according to this invention, the sequential turn of the light from a cordless handset is carried out over the large range that the port of a multiport satellite should be searched. If the wide range light-receiving means of a multiport satellite receives the light of a cordless handset when the multiport satellite is turned to Light is sent out from the wide range light transmission means of a multiport satellite, and this light is received with a cordless handset. A cordless handset sets up the direction of transmission-and-reception light of the optical wireless transceiver section, and sends out light in this light-receiving direction. Since a multiport satellite will carry out sequential turn initiation of the light-receiving direction of an optical wireless transceiver means over the large range and will look for a cordless handset if a wide range light-receiving means receives the light from a cordless handset Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset can search the location of a multiport satellite accurately and quickly, and can perform optical radio accurately.

[0060] Furthermore, according to this invention, the sequential turn of the light from a cordless handset is carried out over the large range that the port of a multiport satellite should be searched. When the multiport satellite is turned to, a multiport satellite receives the light of a cordless handset with two or more light-receiving means. Set up the direction of transmission-and-reception light of the optical wireless transceiver means of a port in the direction of the cordless handset which the location of a cordless handset was pinpointed [ cordless handset ] based on two or more of these light-receiving conditions, and had this location pinpointed, and light is sent out. Since a cordless handset receives this light, the optical wireless transceiver means of a cordless handset is set up in this light-receiving direction and light is sent out Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset and a multiport satellite can search a partner's location accurately and quickly mutually, and can perform optical radio at accurate and a high speed.

[0061] According to this invention, the sequential turn of the supersonic wave is carried out over the large range that the port of a multiport satellite should be searched. When the multiport satellite is turned to, two or more ultrasonic receiving means receive the supersonic wave from a cordless handset. Set up the direction of transmission-and-reception light of the optical wireless transceiver means of a port in the direction of the cordless handset which the location of a cordless handset was pinpointed [ cordless handset ] based on two or more receive states of this supersonic wave, and had this location pinpointed, and light is sent out. Since a cordless handset receives this light, the optical wireless transceiver means of a cordless handset is set up in this light-receiving direction and light is sent out Though a multiport satellite and a cordless handset have narrow comparison transmission-and-reception directivity, a cordless handset and a multiport satellite can search a mutual location accurately and quickly, and can perform optical radio at accurate and a high speed.

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[Translation done.]

## DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the explanatory view showing the configuration of the multiport satellite light radio-transmission equipment concerning the 1st operation gestalt of this invention.
[Drawing 2] Two or more ports established in the multiport satellite shown in drawing 1 and two or more cordless handsets are the explanatory views showing the light-receiving property and luminescence property of the optical wireless transceiver section which it has, respectively.
[Drawing 3] It is drawing showing the detailed configuration of the multiport satellite in the 1st operation gestalt shown in drawing 1 .
[Drawing 4] It is the explanatory view showing reflective use search actuation of the multiport satellite light radio-transmission equipment which used the multiport satellite shown in drawing 3 .
[Drawing 5] It is the explanatory view showing a continuation of reflective use search actuation of the multiport satellite light radio-transmission equipment shown in drawing 4 .
[Drawing 6] It is the flow chart which shows reflective use search actuation of the multiport satellite light radio-transmission equipment which used the multiport satellite shown in drawing 3 .
[Drawing 7] It is drawing showing the configuration of the multiport satellite used for the multiport satellite light radio-transmission equipment concerning the 2nd operation gestalt of this invention.
[Drawing 8] It is the explanatory view showing AKKU mold bidirectional use search actuation of the multiport satellite light radio-transmission equipment which used the multiport satellite shown in drawing 7 .
[Drawing 9] It is the explanatory view showing a continuation of AKKU mold bidirectional use search actuation of the multiport satellite light radio-transmission equipment shown in drawing 8 .
[Drawing 10] It is the flow chart which shows AKKU mold bidirectional use search actuation of the multiport satellite light radio-transmission equipment shown in drawing 7 .
[Drawing 11] It is drawing showing the configuration of the multiport satellite used for the multiport satellite light radio-transmission equipment concerning the 3rd operation gestalt of this invention.
[Drawing 12] It is the explanatory view showing the bidirectional search actuation using the optical bearing detector of the multiport satellite light radio-transmission equipment shown in drawing 11 .
[Drawing 13] It is the flow chart which shows the bidirectional search actuation using the optical bearing detector of the multiport satellite light radio-transmission equipment shown in drawing 11 .
[Drawing 14] It is drawing showing the configuration of the multiport satellite used for the multiport satellite light radio-transmission equipment concerning the 4th operation gestalt of this invention.
[Drawing 15] At least the acoustic wave of the multiport satellite light radio-transmission equipment shown in drawing 14 is the explanatory view showing the bidirectional search actuation which used the detector.
[Drawing 16] When two or more light-receiving means or ultrasonic microphones detect the direction of a cordless handset like the 3rd and 4th operation gestalten, a multiport satellite is the flow chart which shows the port selection processing which chooses any one port from two or more ports.
[Drawing 17] It is drawing for explaining conventional multiport satellite light radio-transmission

equipment.
[Drawing 18] It is drawing for explaining the effect of the reflection in the conventional multiport satellite light radio-transmission equipment shown in drawing 17 .
[Drawing 19] It is the flow chart which shows the port selection quota procedure in the operation gestalt shown in drawing 1 .
[Description of Notations]
3 Multiport Satellite
5 Electrical Machinery and Apparatus
7 Cordless Handset
11 Port
19 Cube-Corner-Reflector Array
31 Extensive Orientation Light-receiving Equipment
33 Extensive Orientation Luminescence Equipment
37 Light-receiving Means
45 Ultrasonic Microphone

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[Translation done.]

* NOTICES *



1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

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DRAWINGS

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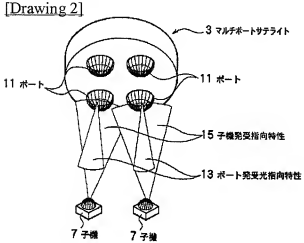
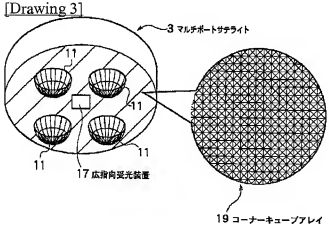
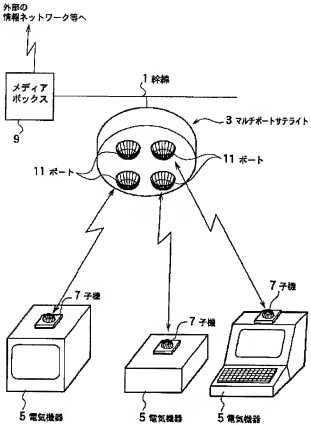
[Drawing 2]



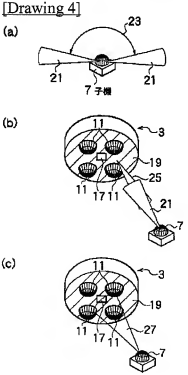

[Drawing 3]



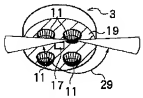

[Drawing 1]



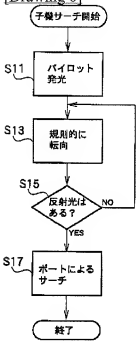

[Drawing 4]



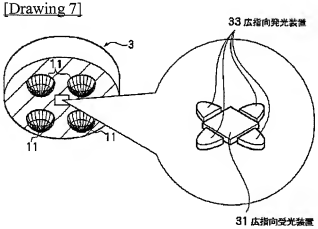

[Drawing 5]




[Drawing 6]

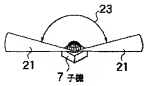



[Drawing 7]

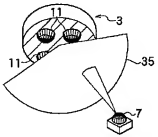



[Drawing 8]

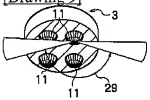
(a)




(b)

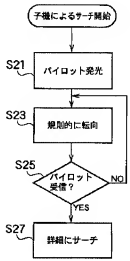



[Drawing 9]

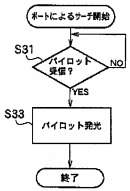



[Drawing 10]

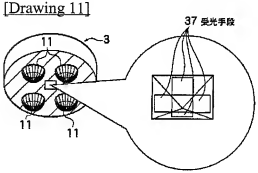
(a)



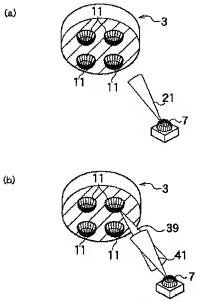

(b)



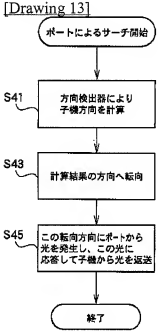

[Drawing 11]



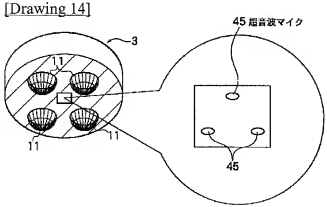

[Drawing 12]



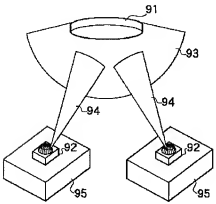

[Drawing 13]



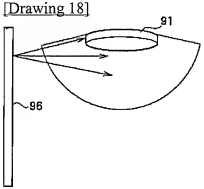

[Drawing 14]



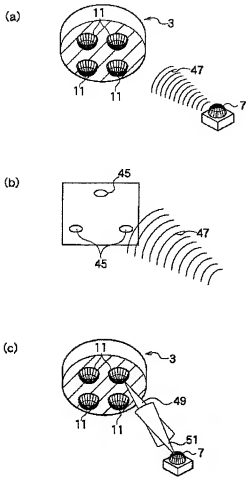

[Drawing 17]



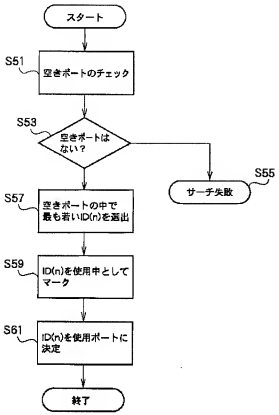

[Drawing 18]



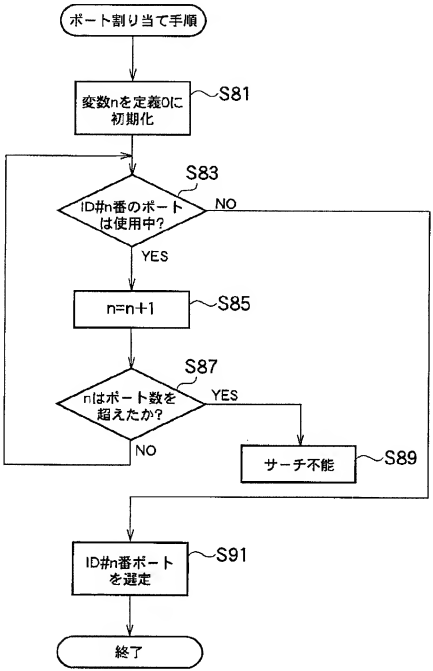

[Drawing 15]




[Drawing 16]


スタート
S51
空きポートのチェック
S53
空きポートはない？
S55
サーチ失敗
S57
空きポートの中で最も若いID(n)を返出
S59
ID(n)を使用中としてマーク
S61
ID(n)を使用ポートに決定
終了

[Drawing 19]




[Translation done.]